

● (23C 16/30

009773728/7  
DIALOG(R)File 351:DERWENT WPI  
(c) 1994 Derwent Info Ltd. All rts. reserv.

009773728 WPI Acc No: 94-053579/07  
XRAM Acc No: C94-024076  
XRPX Acc No: N94-042483

Surface coated tungsten carbide-base cemented carbide cutting tool w  
excellent resistance to chipping - has carbide base cemented carbide  
matrix and hard coating layer with granular crystal structure on  
surface of matrix

Patent Assignee: (MITV ) MITSUBISHI MATERIALS CORP

Number of Patents: 001

Number of Countries: 001

Patent Family:

CC Number	Kind	Date	Week	
JP 6008008	A	940118	9407	(Basic)

Abstract (Basic): JP 06008008 A

The carbide cutting tool comprises a W-carbide-base cemented carbide matrix, and 0.5-20 micron mean thickness hard coating layer having granular crystal structure formed on the surface of the matrix in which the hard coating layer is constituted with an under layer comprising a single layer of one of carbide, nitride, carbonitride, carboxide, and oxycarbonitride of Ti, or multilayer of more than one of the Ti-cpd., and a top layer comprising a single layer of one of the Ti-cpd., and Al-oxide, or double layer of more than one of the Ti-cp and Al-oxide, and at least one layer in the top layer is constituted with Ti-carbonitride having crystal structure of either one of those changing from granular crystal structure to longitudinally grown crystal one, or further, changing to granular crystal one, or changing from longitudinally grown crystal one to granular crystal one.

USE - For continuous or intermittent cutting steel or iron castings, exhibiting wear resistance. Dwg.0/0

Derwent Class: L02; M13; P54; P56;

Int Pat Class: B23B-027/14; B23P-015/28; C23C-016/30; C23C-028/04

~~SECRET~~ -- (C) PAJ / JPO

PN - JP6008008 - 940118  
AP - JP920191603 920625  
PA - MITSUBISHI MATERIALS CORP  
IN - YOSHIMURA HIRONORI; others: 01  
I - ---B23B27/14---; B23P15/28; ---C23C16/30---; C23C28/04  
TI - CUTTING TOOL MADE OF SURFACE COATING TUNGSTEN CARBIDE GROUP SUPER  
HARD ALLOY EXCELLENT IN CHIPPING RESISTANCE PROPERTY  
AB - PURPOSE: To improve a chipping resistance property by making crystal  
structure of a carbide nitride titanium layer as crystal structure  
changing from granular crystal structure to longitudinal growth  
crystal structure.  
- CONSTITUTION: Hard coated layers respectively having granular crystal  
structure are formed in average layer thickness of 0.5-20μm on the  
surface of a WC group super hard alloy substrate. These hard coated  
layers are constituted of a lower part layer consisting of a angle  
layer of one kind of Ti compounds of TiC, TiN, TiCN, TiCO and TiCNO o  
a multiple layer of more than one kind of them and an upper layer  
consisting of a single layer of one kind of the above Ti compounds an  
---Al2O3--- or a multiple layer of more than one kind of them.  
Additionally, at least one layer of the upper layers is constituted o  
TiCN, and crystal structure of at least one layer of this TiCN layer  
is used as crystal layer changing from granular crystal structure to  
longitudinal growth structure.  
GR - M1590  
ABV - 018203  
ABD - 940411  
XPN - J06008008